

REMARKS

Status of the claims

Claims 5-10, 12, 14, 15, 27-40, and 52-66 were pending in the present application. By claims 5, 27, and 36 have been amended, and new claims 67-73 have been added. Accordingly, claims 5-10, 12, 14, 15, 27-40, and 52-73 are currently under consideration.

Support for the claim amendments and new claims may be found in the specification. The amendments to claim 5, 27, and 36 have been made to correct typographical and/or clerical errors and/or to clarify the claim language. Support for new claims 67-73 is provided, for example, on page 22, lines 12-14, page 5, lines 2-5, page 11, lines 29-32, page 24, lines 9-10, page 6, lines 1-2, and page 24, lines 23-27.

With respect to any claim amendments or cancellations, Applicants have not dedicated to the public or abandoned any unclaimed subject matter and moreover have not acquiesced to any rejections and/or objections made by the Patent Office. Applicants expressly reserve the right to pursue prosecution of any presently excluded subject matter or claim embodiments in one or more future continuation and/or divisional application(s).

Information Disclosure Statement

A Supplemental Information Disclosure Statement is submitted herewith. Applicants would appreciate the Examiner initialing and returning the Form 1449, indicating that the references therein have been considered and made of record in this application.

Claim objection

Claim 5 has been objected to due to misspelling of the bacterial species name “deramificans” as “deramification.” This typographical error has been corrected herein, rendering the objection moot.

Rejections under 35 U.S.C. §103(a)

Claims 5-10, 14-15, 27-40, and 52-66 have been rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Deweer et al., U.S. Patent No. 6,074,854 (“Deweer”) and McPherson et al. (1988) *Biochemical Soc. Trans.* 16(5):723-24 or Albertson (1997) *Biochim.*

Biophys. Acta 1354:35-39 (“Albertson”). Applicants respectfully traverse this rejection for reasons of record in previously filed responses.

However, as noted by the Examiner on page 3 of the Office Action, Deweer constitutes prior art only under 35 U.S.C. §102(e). This patent was commonly owned with the present application as of its filing date and thus is disqualified as a reference for purposes of an obviousness rejection under 35 U.S.C. §103(c). A copy of an assignment of U.S. Serial No. 08/472,293 (the parent application to U.S. Patent No. 6,074,854) to Genencor International, Inc., the assignee of record for the present application, dated February 18, 1997 and recorded with the U.S. Patent and Trademark Office at Reel No. 8476/ Frame No. 0001, is submitted with this response. (Appendix A) This assignment predates the March 4, 1998 priority date for the instant application. Thus, the rejection under 35 U.S.C. §103(a) should be withdrawn.

Claim 12 has been rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Deweer. As discussed above, Deweer was commonly owned with the present application as of its filing date. Thus, the rejection under 35 U.S.C. §103(a) should be withdrawn.

Double Patenting

Claims 5-10, 12, 14-15, 27-40, and 52-66 have been rejected on the ground of nonstatutory obviousness-type double patenting as allegedly unpatentable over claims 3 and 4 of Deweer in view of McPherson or Albertson. Applicants respectfully traverse these rejections for reasons of record in previously filed responses and as set forth below.

The claimed pullulanase enzymes are patentably distinct from those claimed in Deweer. Claims 3 and 4 of Deweer are directed to a composition comprising a *Bacillus deramificans* pullulanase comprising the full length pullulanase sequence set forth in SEQ ID NO:11 or a modified sequence therefrom. Deweer neither teaches nor suggests truncations or addition of an alanine at the amino terminus as currently claimed. The Examiner admits that this patent does not teach the claimed truncations in the Office Action on page 4, lines 14-16, where he states “the reference does not teach modification of pullulanase by way of deletion of about 100, 200 or 300 N-terminal amino acid.” The Examiner further admits that this patent does not teach

addition of an alanine residue at the N-terminus in the Office Action on page 11, line 14, where he states that “the references does not specifically teach that the added amino acid needs to be alanine.” Deweer does state prophetically that a modified *B. deramificans* pullulanase may differ from the wild type enzyme by at least one amino acid and may be produced by chemical mutagenesis or genetic engineering, such as site-directed or random mutagenesis (col. 5, line 62 – col. 6, line 3), but Deweer does not teach or suggest any truncation or addition of any amino acid to the N-terminus as currently claimed. Thus, claims 3 and 4 of Deweer do not render the current claims obvious.

Albertson and McPherson describe enzymes from very different species and with very different sequences those currently claimed, as discussed above. These references are not relevant to the double patenting rejection, since neither the claims nor the disclosures of the reference patent recites or suggests the currently claimed modifications.

In view of the foregoing, Applicants respectfully request reconsideration and withdrawal of the double patenting rejection.

CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark Office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 07-1048, referencing Docket No. GC396-2. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Respectfully submitted,

Dated: December 11, 2007

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APPENDIX A



GEN- 025/04US
UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
ASSISTANT SECRETARY AND COMMISSIONER
OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

JUNE 11, 1997

PTAS

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RECEIVED



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JUN 19 1997

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UNITED STATES PATENT AND TRADEMARK OFFICE
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, NORTH TOWER BUILDING, SUITE 10C35, WASHINGTON, D.C. 20231.

RECORDATION DATE: 04/28/1997

REEL/FRAME: 8476/0001
NUMBER OF PAGES: 5

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:
SOLVAY (SOCIETE ANONYME)

DOC DATE: 02/18/1997

ASSIGNEE:
GENENCOR INTERNATIONAL, INC.
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ROCHESTER, NEW YORK 14618

SERIAL NUMBER: 03472293
PATENT NUMBER:

FILING DATE: 06/07/1995
ISSUE DATE:

KEITH GOODE, EXAMINER
ASSIGNMENT DIVISION
OFFICE OF PUBLIC RECORDS

MTM
6/19/97

PATENT

Attorney Docket No. GENC-025/04US
GC446-US5**ASSIGNMENT OF PATENT RIGHTS**

Solvay (Société Anonyme), a corporation organized and existing under the laws of Belgium, having a place of business at 33 Rue de Prince Albert, B-1050 Brussels, Belgium (hereinafter called "Assignor"), hereby assigns certain patent rights to Genencor International, Inc., a corporation organized and existing under the laws of Delaware, having a place of business at 4 Cambridge Place, 1870 South Winton Road, Rochester, New York 14618, United States of America (hereinafter called the "Assignee"):

WHEREAS Assignor is the owner of the following Application(s) for Letters Patent:

APPLICATION(S)

Patent Application Serial No. 08/472,293

Filed: June 7, 1995

Title: Pullulanase, Microorganisms Which Produce It, Processes for the Preparation of This Pullulanase and the Uses Thereof

Assignment to Solvay (Société Anonyme) recorded: 03/22/94 Reel/Frame: 6927/0320

AND WHEREAS Assignor has agreed with Assignee for the transfer to it of the whole right, title and interest in and to said Application(s) and said Inventions described therein,

NOW THIS ASSIGNMENT WITNESSETH that in pursuance of said agreement and in consideration of the sum of One U.S. Dollar (\$1.00) paid by Assignee to Assignor (the receipt of which Assignor hereby acknowledges), Assignor, as beneficial owner, hereby assigns and transfers to Assignee said Inventions, said Application(s), and any and all Letters Patent in the United States of America and all foreign countries which may be granted therefor and thereon, and in and to any and all divisions, continuations, and continuations-in-part of said Application(s), or reissues or extensions of said Letters Patent, and all rights under the International Convention for the Protection of Industrial Property, and the full exclusive benefits thereof, and all rights, privileges and advantages appertaining thereto, including any and all rights to damages, profits or recoveries of any nature for past infringement of said Letters Patent, and the payment of any and all maintenance fees, taxes, and the like, TO HOLD the same unto and to the use of Assignee, its successors and assigns absolutely during the residue of the respective terms for which said Letters Patent were granted and during any such terms, and for any and all rights extending from said Application(s) and reissues.

ASSIGNOR hereby covenants that Assignor has full right to convey the entire interest herein being assigned and represents that Assignor has not executed and will not execute any

agreements inconsistent with this Assignment or to the detriment of said Application(s) and Inventions being assigned hereby.

AND for the same consideration, Assignor hereby covenants and agrees to and with Assignee, its successor, legal representatives and assigns that, at the time of execution and delivery of these presents, Assignor is the sole and lawful owner of the entire right, title and interest in and to said Inventions and said Application(s) for Letters Patent above-mentioned, that the same are unencumbered, and that Assignor has good and full right and lawful authority to sell and convey the same in the manner herein set forth.

AND for the same consideration, Assignor hereby covenants and agrees to and with Assignee, its successors, legal representatives and assigns that Assignor will, whenever counsel of Assignee, or the counsel of its successors, legal representatives and assigns, shall advise that any proceeding in connection with said inventions, or that any division, continuation or continuation-in-part of any Letters Patent to be obtained therein, is lawful and desirable, sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done for the procurement, maintenance, enforcement and defense of Letters Patent for said inventions, without charge to Assignor, its successors, legal representatives and assigns, but at the cost and expense of the Assignee, its successors, legal representatives and assigns.

Executed at Brussels this 18th day of February 1997



Assignor: Solvay (Soci t  Anonyme)

By: Liliane MEYERS

Printed Name: Dr. Liliane MEYERS

Title: Head of Industrial
Property and Information
Documentation Departments